## PROJECT DESCRIPTION

THIS PORTION OF THE PROJECT INVOLVES THE RECONSTRUCTION OF THE TRAFFIC SIGNAL AT THE INTERSECTION OF MD 650 (NEW HAMPSHIRE AVENUE) AT MD 410 (EAST-WEST HIGHWAY/FTHAN ALLEN AVENUE) IN PRINCE GEORGE'S COUNTY, DUE TO THE SAFETY AND RESURFACING PROJECT ALONG MD 650. THE RECONSTRUCTION INCLUDES THE INSTALLATION OF LED VEHICULAR SIGNAL HEADS, ACCESSIBLE PUSHBUTTONS AND COUNTDOWN LED PEDESTRIAN SIGNALS ACROSS ALL LEGS OF THE INTERSECTION. MD 650 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL CONTINUE TO OPERATE IN A NEMA SIX PHASE, FULLY-ACTUATED TRAFFIC MODE WITH EXCLUSIVE MAINLINE LEFT TURN AND SPLIT PHASING ON THE SIDE STREET. THE EXISTING MAINLINE PEDESTRIAN PHASES AND THE ALTERNATIVE SIDE STREET PEDESTRIAN PHASES WILL REMAIN.

CONTROLLER REQUIREMENTS

INSTALL A NEW NEMA SIZE "6" BASE MOUNTED CABINET AND FOUNDATION. THE SHA SIGNAL SHOP WILL INSTALL THE CONTROLLER, ALL ASSOCIATED HARNESSES, ONE (1) 2 WIRE CENTRAL CONTROL UNIT, THREE (3) FOUR CHANNEL DETECTOR AMPLIFIERS AND ONE (1) VIDEO DETECTION INTERFACE EQUIPMENT WITHIN THE PROPOSED CABINET.

PHONE DROP

THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF THE SHA SIGNAL SHOP AT 410-787-7630 FOR THE PHONE DROP LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE AND PHONE NUMBER.

APS WILL FUNCTION AS FOLLOWS:

FOR NEW HAMPSHIRE AVENUE (NORTH LEG)

A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME. THE PUSHBUTTON MESSAGE WILL BE "WAIT TO CROSS NEW HAMPSHIRE AT EAST-WEST AND ETHAN ALLEN. CROSSWALK ANGLES RIGHT"

B. WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE "WALK" PHASE

FOR NEW HAMPSHIRE AVENUE (SOUTH LEG)

A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME. THE PUSHBUTTON MESSAGE WILL BE "WAIT TO CROSS NEW HAMPSHIRE AT EAST-WEST AND ETHAN ALLEN."

B. WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE "WALK" PHASE.

FOR MD 410 (EAST-WEST HIGHWAY) (EAST LEG)

A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME. THE PUSHBUTTON MESSAGE WILL BE "WAIT TO CROSS EAST-WEST AT NEW HAMPSHIRE."

B. WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE "WALK" PHASE.

FOR MD 410 (ETHAN ALLEN AVENUE) (WEST LEG)

A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON MESSAGE WILL BE "WAIT TO CROSS ETHAN ALLEN AT NEW HAMPSHIRE."

B. WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE "WALK" PHASE

THE CONTACT PERSONS FOR DISTRICT #3 / OOTS ARE AS FOLLOWS: District #3

EQUIPMENT LIST 'A'

DESCRIPTION

VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS

FOUR CHANNEL LOOP DETECTOR AMPLIFIER, RACK MOUNT

EIGHT PHASE (FULLY ACTUATED) CONTROLLER

EQUIPMENT TO BE FURNISHED BY THE SHA.

QUANTITY

I EA

3 EA

ΙEΑ

ITEM NO.

900000

963010

971017

Mr. Brian Young Assistant District Engineer - Traffic Phone: 301-513-7404

Mr. Augie Rebish District Utility Engineer Phone: 301-513-7350

Mr. Vernon Stinnett Assistant District Engineer - Maintenance Phone: 301-513-7304

Mr.Kevin Nowak Assistant District Engineer - Construction Phone: 301-513-7385

Office Of Traffic & Safety

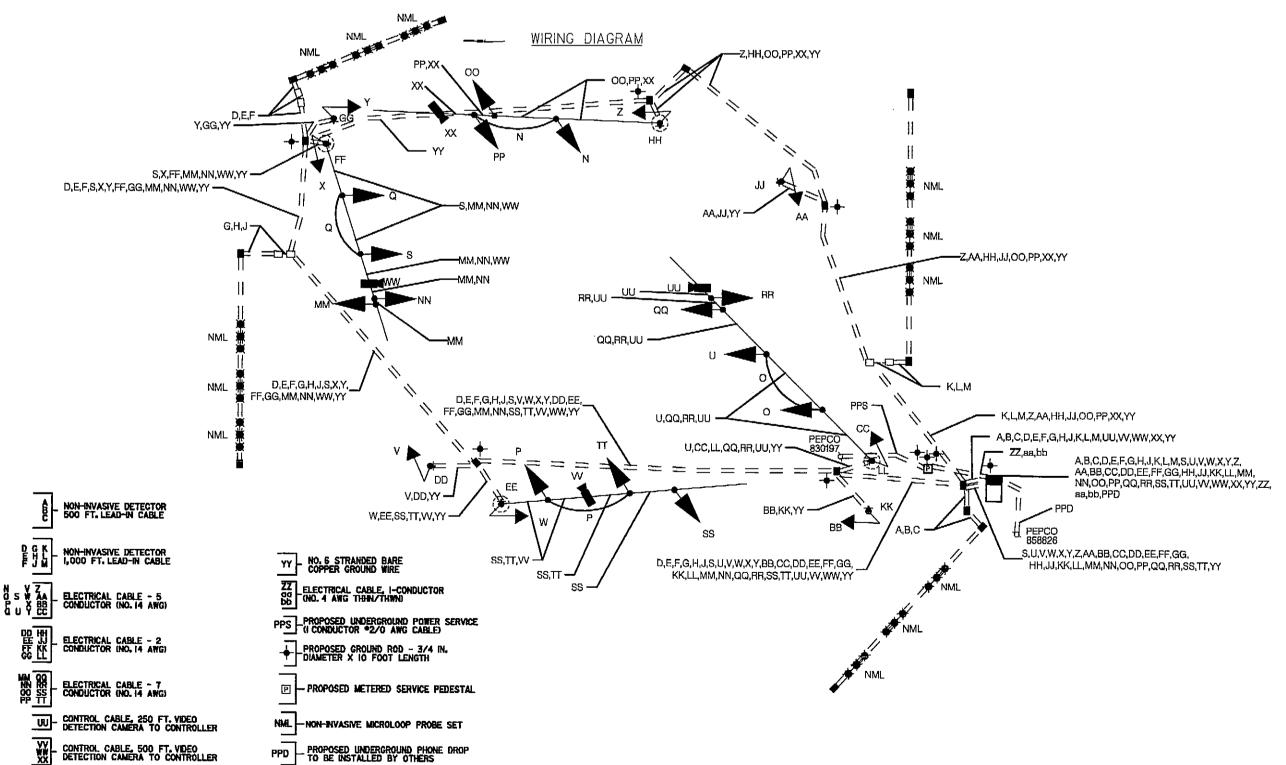
Mr. Richard L. Daff Sr. Chief, Traffic Operations Division Phone: 410-787-7630

Mr. Robert Snyder Assistant Division Chief, Traffic Operations 410-787-7630

Mr. Edward Rodenhizer Team Leader Signal Operations Phone: 410-787-7650

Mr. Eugene Bailey Team Leader Sign Operations 410-787-7670

The Power Company Representative is: Potomac Electric Power Company 8300 Old Marlboro Pike Upper Marlboro, Maryland 20772 Phone: 301-961-5325



AND CABINET, SIZE 6 - BASE MOUNT 585625 200 LF 24 IN. WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS 973023 66 SF SHEET ALUMINUM MAST ARM / POLE 634100 400 LF STANDARD TYPE A CURB 8 INCH X 16 INCH MOUNTED SIGN: 634300 650 LF STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH 4 EA - RIO-3(I) (9 IN. x I5 IN.)655105 4100 SF 5 IN. CONCRETE SIDEWALK "PUSH BUTTON TO CROSS NEW HAMPSHIRE AVE" 655120 160 SF DETECTABLE WARNING SURFACE FOR CURB RAMPS 2 EA - RIO-3(i) (9 IN. x 15 IN.) "PUSH BUTTON TO EAST-WEST HWY" 000008 LLS REMOVE AND DISPOSE OF TRAFFIC SIGNAL EQUIPMENT 000008 2-WIRE CENTRAL CONTROL UNIT LEA 2 EA - RIO-3(I) (9 IN,  $\times$  15 IN.) "PUSH BUTTON TO ETHAN ALLEN AVE" 800000 8 EA 16 IN. LED COUNTDOWN PEDESTRIAN SIGNAL HEAD SECTION  $2 EA - R3-5(L)(30 IN. \times 36 IN.)$ 800000 8 EA AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION 800000 1 EA  $4 EA - D-3(1) (96 IN. \times 16 IN.)$ 16.5 FT. STEEL "T" POLE WITH A SINGLE 50 FOOT MAST ARM 000008 2 EA SHEET ALUMINUM GROUND MOUNTED SIGN: 16.5 FT. STEEL "T" POLE WITH A SINGLE 60 FOOT MAST ARM 800000 ΙEΑ 16.5 FT. STEEL "T" POLE WITH A SINGLE 70 FOOT MAST ARM IEA - SHIELD ASSEMBLY (30 IN. x 51 IN.) "SOUTH, MD 650, RIGHT ARROW" 801004 23 CY CONCRETE FOR SIGNAL FOUNDATION 801104 300 LF I EA - SHIELD ASSEMBLY (48 IN. x 75 IN.) WOOD SIGN SUPPORTS 4 INCH X 4 INCH "NORTH, MD 650, LEFT ARROW" 801106 210 LF WOOD SIGN SUPPORTS 4 INCH X 6 INCH I EA - SHIELD ASSEMBLY (30 IN. x 51 IN.) 802501 900 LF NO. 6 AWG STRANDED BARE COPPER GROUND WIRE "NORTH, MD 650, RIGHT ARROW" 802570 100 LF I CONDUCTOR #2/O AWG CABLE I EA - SHIELD ASSEMBLY (48 IN. x 75 IN.) 805125 100 LF 2 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED "SOUTH, MD 650, LEFT ARROW" 805135 150 LF 3 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED I EA - SHIELD ASSEMBLY (30 IN. x 51 IN.) "EAST, MD 410, RIGHT ARROW" 805140 140 LF 4 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED 805145 35 LF I EA - SHIELD ASSEMBLY (48 IN. x 75 IN.) 2 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - SLOTTED "WEST, MD 410, LEFT ARROW" 805150 270 LF 3 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - SLOTTED I EA - SHIELD ASSEMBLY (30 IN. x 51 IN.) 805155 560 LF 4 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - SLOTTED "WEST, MD 410, RIGHT ARROW" 807202 LEA METERED SERVICE PEDESTAL - 100 AMP I EA - SHIELD ASSEMBLY (48 IN. x 75 IN.) 810010 135 LF ELECTRICAL CABLE - I CONDUCTOR NO. 4 AWG THHN/THWN "EAST, MD 410, LEFT ARROW" 810601 3 EA NONINVASIVE DETECTOR, 500 FT. LEAD IN CABLE EA - WII-2 (36 IN. x 36 IN.) + M6-2 (MOD) (21 IN. x 15 IN.) 810605 9 EA NONINVASIVE DETECTOR, 1,000 FT. LEAD IN CABLE 2 EA - R4-7 (24 IN. x 30 IN.) 100118 16 EA FURNISH AND INSTALL ELECTRICAL HANDHOLE  $4 EA - OMI - 3 (18 IN. \times 18 IN.)$ 813014 220 SF INSTALL GROUND MOUNTED SIGN  $3 EA - RI - 2 (30 IN. \times 30 IN.)$ 813015 66 SF INSTALL OVERHEAD SIGN 813022 54 SF REMOVE EXISTING GROUND MOUNTED SIGNS 816001 4 EA VIDEO DETECTION CAMERA 816005 CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER ΙEΑ 816010 3 EA CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER 818004 4 EA 10 FOOT BREAKAWAY PEDESTAL POLE 837001 GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH 860284 46 EA 12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION 861105 ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG) 861107 3000 LF ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG) 861108 2500 LF ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)

871117

LEA

ITEM NO.

120500

203030

585407

585408

585621

QUANTITY

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5 CY

80 LF

100 LF

800 LF

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PHASE 5 CHANGE	<b>+</b> R−	+R−	R	R	<b>←</b> Y−	+Y-	G	G	R	R	R	R	R	R	w	DW	DW	W	DW	DW	DW	DW	F √_
PHASE 2 AND 6	<b>+</b> R−	<b>+</b> R−	G	G	←R−	<b>+</b> R−	G	G	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW	DW	DW	0
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PHASE 3 CHANGE	<b>+</b> R−	+R-	R	R	+R-	<b>4-</b> R−	R	R	Υ	γ	Υ	R	R	R	DW								
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PHASE 3 ALT. PED. CLEARANCE	<b>+</b> R−	+R−	R	R	+R−	<b>+</b> R−	Ř	R	GG	G/	G	R	R	R	DW	DW	DW	DW	DW	FL/DW	FL⁄DW	DW	
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PHASE 4 CHANGE	<b>+</b> R−	+R−	R	R	+R−	+R−	R	R	R	R	R	Y	Y	Υ	DW								
PHASE 4 ALT.	<b>←</b> R-	+R−	R	R	+R−	<b>+</b> R−	R	R	R	R	R	G +G-	G/+G-	G	DW	DW	DW	DW	WK	DW	DW	WK	<del>' '  </del>
PHASE 4 ALT. PED. CLEARANCE	+R	◆R-	R	R	<b>←</b> R−	<b>+</b> R−	R	R	R	R	Ř	G G		G	DW	DW	DW	DW	FL/DW	DW	DW	FL⁄DW	
PHASE 4 CHANGE	+R-	<b>←</b> R−	R	R	+R-	<b>4-</b> R−	R	R	R	R	R	Y	Y	Y	DW								
FLASHING OPERATION	FL/RA	FL/RA	FL/Y	FL/Y	FL/RA	FL/RA	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	+ Δ √ + Ω							

## EQUIPMENT LIST 'C'

DESCRIPTION

SHEET NO. 04 OF 05

EQUIPMENT TO BE REMOVED AND RETURNED TO SHA.

ITEM NO. <u>QUANTITY</u>

INSTALL EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT

NONE - ALL REMOVED EQUIPMENT SHALL BECOME

THE PROPERTY OF THE CONTRACTOR.

EQUIPMENT LIST 'B'

EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

DESCRIPTION

MAINTENANCE OF TRAFFIC

5 IN, YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS

IO IN. WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS

12 IN. WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS

TEST PIT FXCAVATION

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF TRAFFIC & SAFETY TRAFFIC ENGINEERING DESIGN DIVISION

MD 650 (NEW HAMPSHIRE AVENUE) MD 410 (EAST-WEST HIGHWAY) Takoma Park, MD

## GENERAL INFORMATION - 01

SCALE NONE ADVERTISED DATE 10/2009 CONTRACT NO. PG7425177

DESIGNED BY \_\_\_\_\_MCG COUNTY PRINCE GEORGE'S DRAWN BY \_\_\_\_ LOGMILE 16065000.81 CHECKED BY BAB TIMS NO. \_ F.A.P. NO. SEE TITLE SHEET TOD NO.

TS NO. 319D-GI-1 DRAWING **SG - 04** OF 05